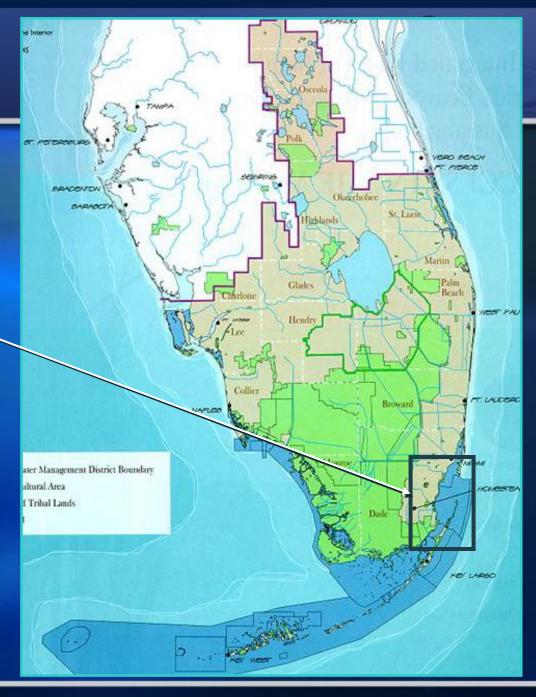


Seasonal Agricultural Drawdown Study Update

Project and Lands Committee
October 14, 2009

Larry Gerry, Chief Scientist Everglades Restoration & Capital Projects South Florida Water Management District

Agricultural Drawdown Area in Miami-Dade County



Overview of Presentation

- Background of Agricultural Drawdown
- Phase I Study
- Phase II Study
- 2009 Seasonal Agriculture Drawdown

Background

 Drawdowns have occurred since late 1960s and was discussed in November 1981 by SFWMD Board

Staff – "stages had been lowered in the East Glades annually for about the past 15 years"

Staff – "salt water intrusion recognized as a threat"

Staff – "if the Board approved a lowering of stages, it should be done only for planting, and after that, stages should be held high; the stages should be dropped only to let the farmers get on the land."

GB – "approved a temporary, 45 day lowering of water stages in the East Glades – the same as in previous years. GB gave no guarantee for flood protection – operate system to minimize impacts"

Issues

Biscayne Bay/Regional Perspective

- Loss of groundwater at beginning of dry season
- Drawdown release out of sync with natural system needs
 poor timing, increased nearshore salinity
- Reduced groundwater levels may affect salt water intrusion

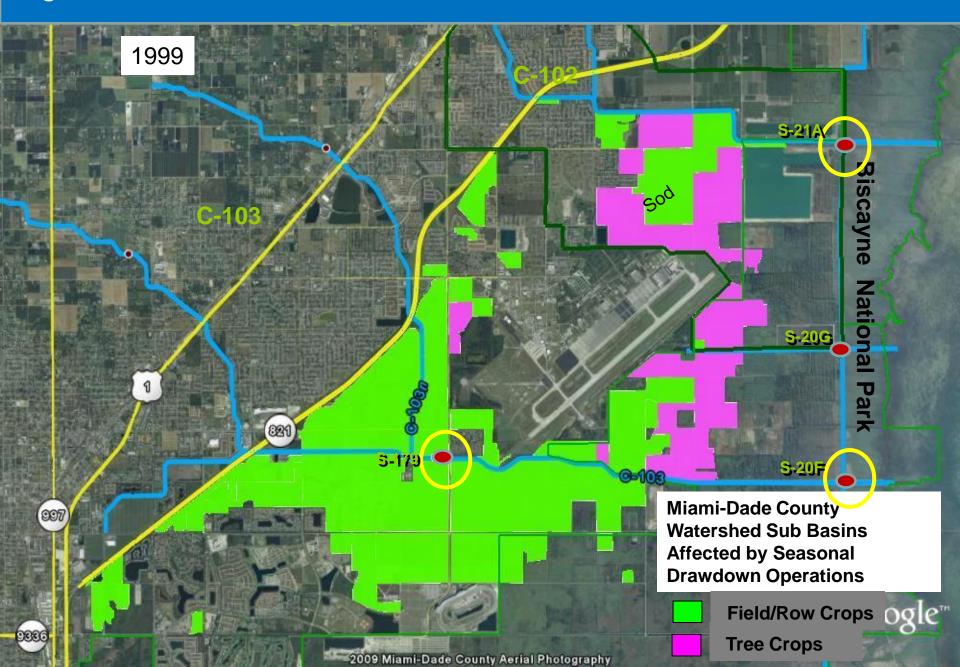
Agricultural Perspective

- Vital to seasonal row crops for planting and market timing
- Ornamental crops benefit, but drawdown is for seasonal agriculture, not year round agriculture
- Land owners want flexibility to change crop usage depending on markets

Effect of agricultural drawdown



Agricultural Uses in C-102 and C-103 Basins - East of U.S. 1



Agricultural Uses in C-102, C-103 - East of U.S. 1 2009 5-21A **National Park** Military SF2(1) G 3-20F **Miami-Dade County Watershed Sub Basins Affected by Seasonal Drawdown Operations** 1,706 acres of seasonal Field/Row Crops agriculture - 6,577 acres total **Tree Crops**

Phase I - 2009 Stakeholder Meetings

- May 8 Biscayne Bay Regional Restoration Coordination Team
- June 30 Agriculture Landowners Meeting
- Aug 25 Environmental Group Meeting
- Sep 1 Kickoff Meeting
 - General discussion of purpose
 - Expectations
 - Study process
- Sept. 28 Agricultural Round Table
 - Potential 2009 adjustments/options

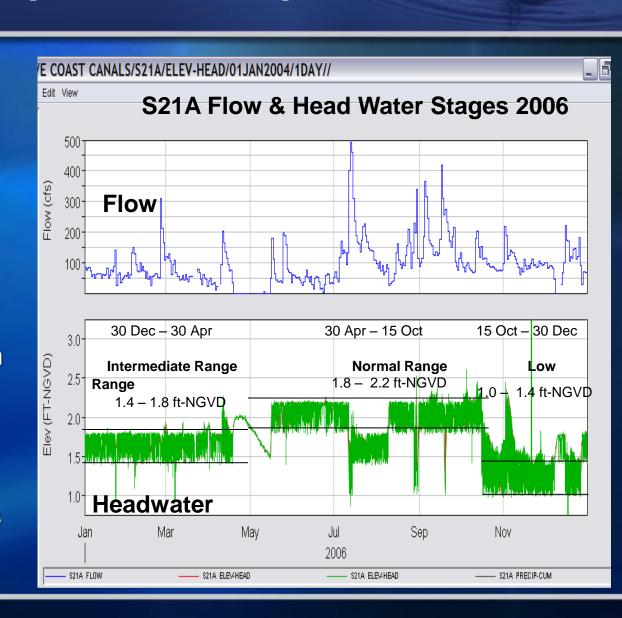
Phase I Study Options Considered

- Conduct a smaller drawdown
- Start drawdown earlier in season and gradually reduce water levels
- Have farmers use different equipment that can operate in soggy soils
- Fill working areas of farm fields
- Delay drawdown to later in season

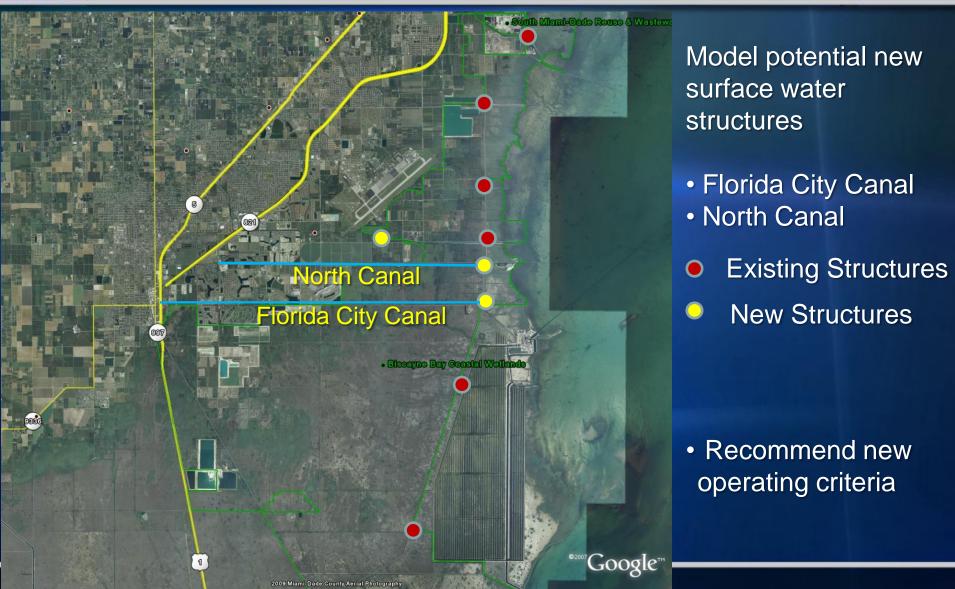


Existing Operations Optimized

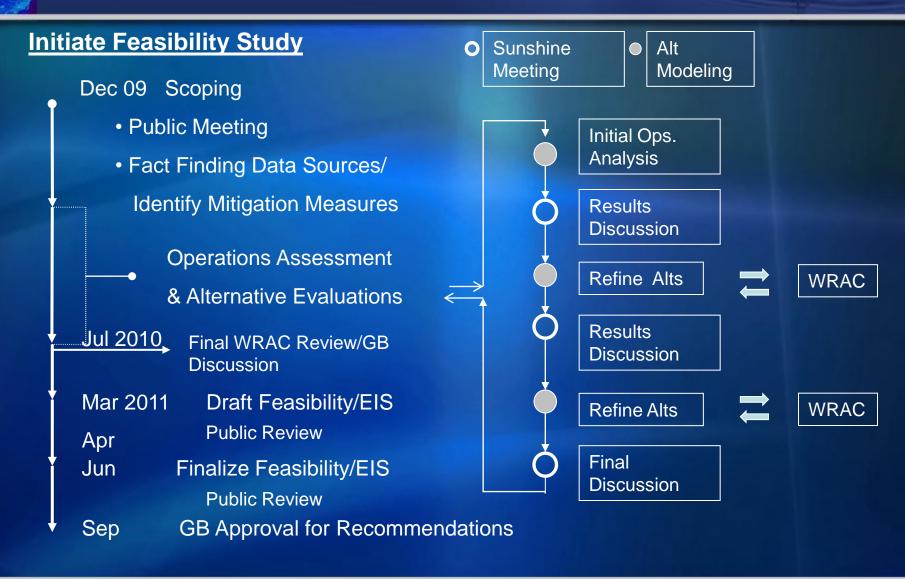
- Homestead Field Station optimizes operations to conserve water
- Use of operational flexibility to lessen impacts on Biscayne Bay
- Use direct feedback from farmers to adjust to local conditions
- Assess forecasted weather and water levels in the system to temper operational changes



Phase II Study Potential Mitigation Measures

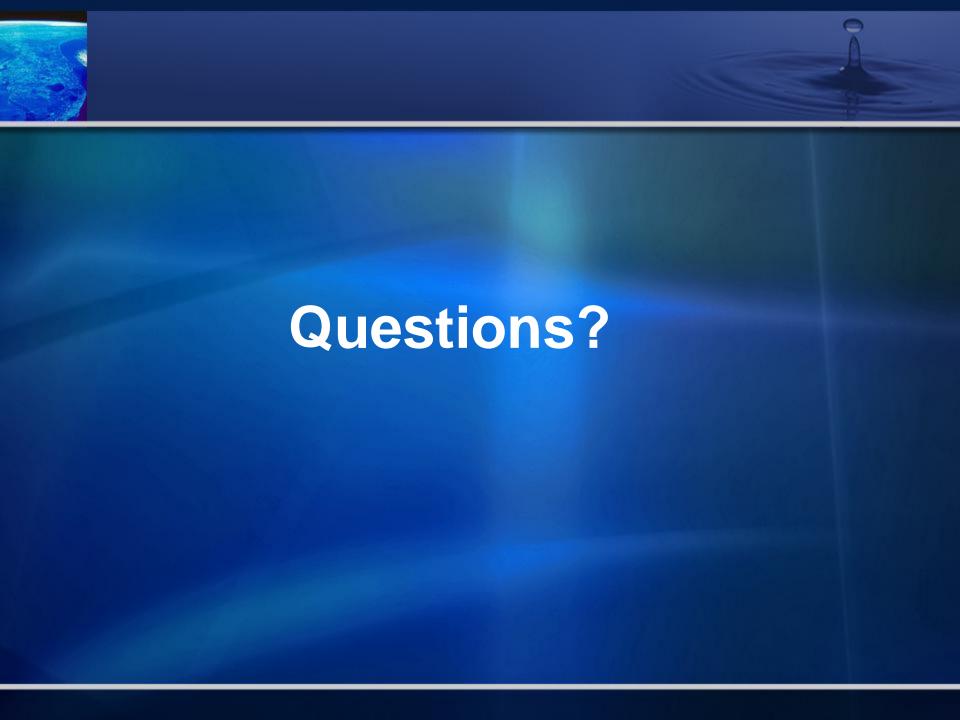


Phase II Agriculture Drawdown Study Process



2009 Seasonal Agricultural Drawdown

Proceed with normal drawdown in South Dade County on October 15





C-103 Basin:

October 15th - set structure S-20F to low range; open at 1.4 ft., close at 1.0 ft. Change S-179 to low range setting open at 3.1 and close at 2.7

C-102 Basin:

October 15th - change structure S-21A setting to Interim range; open at 2.0 ft., close at 1.6 ft.





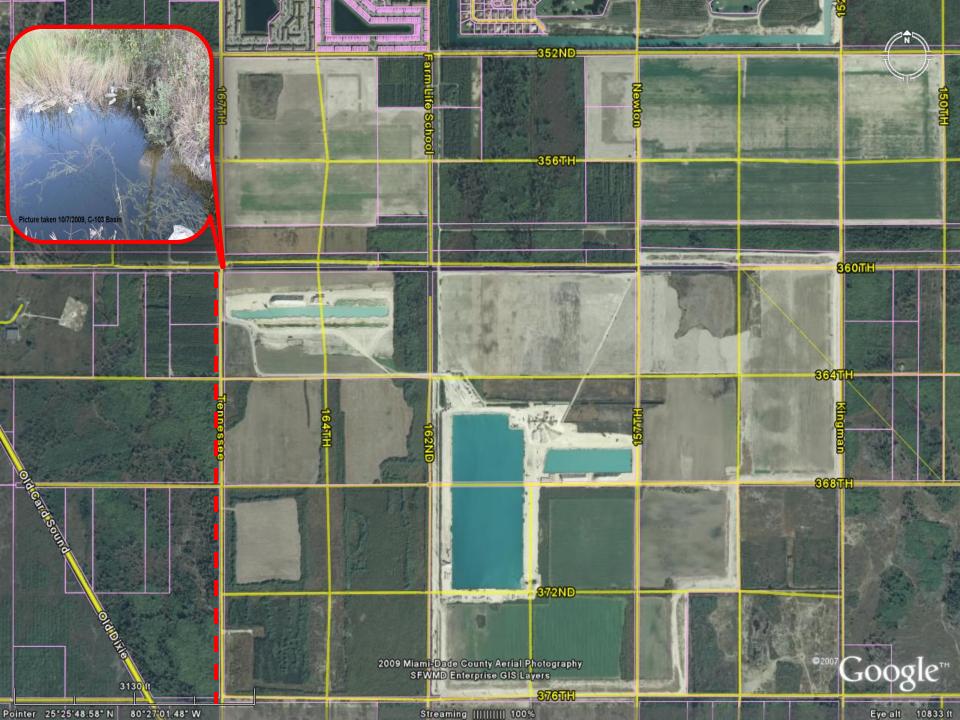


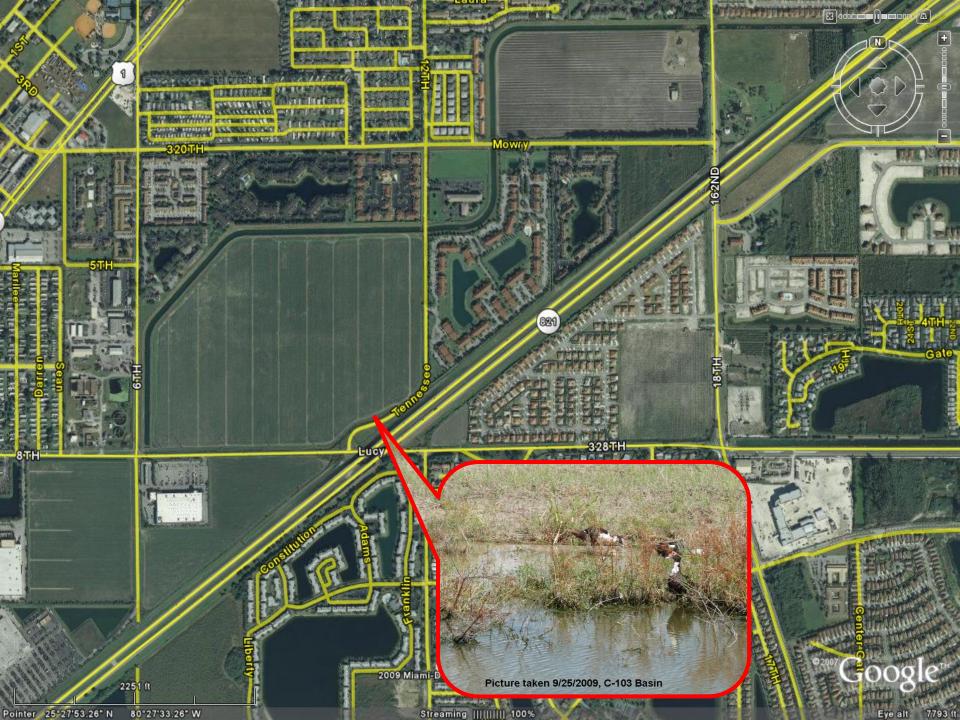


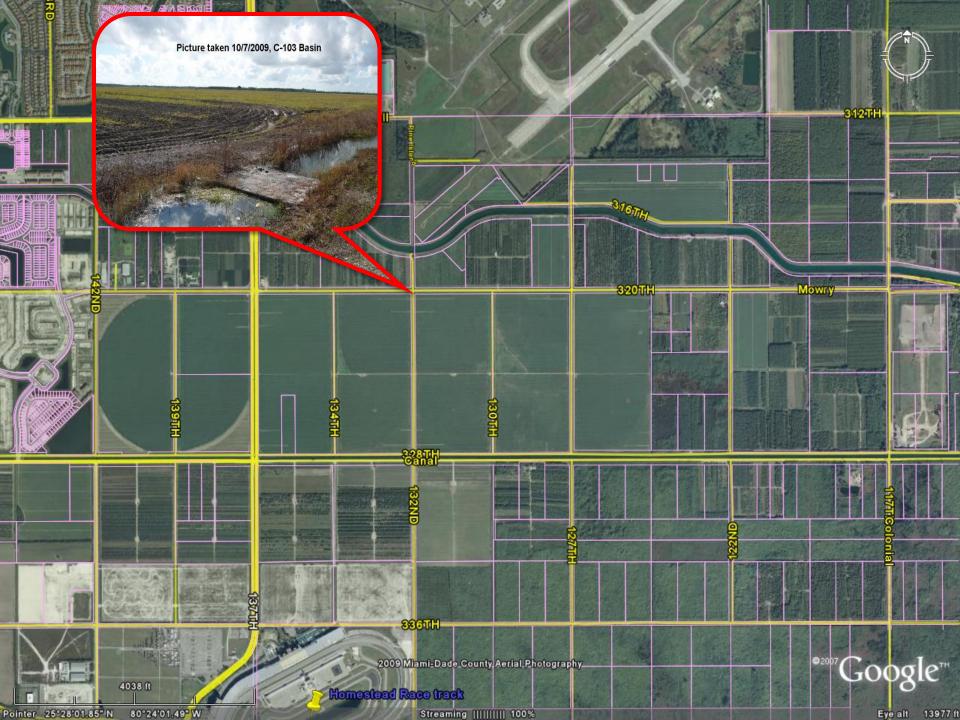










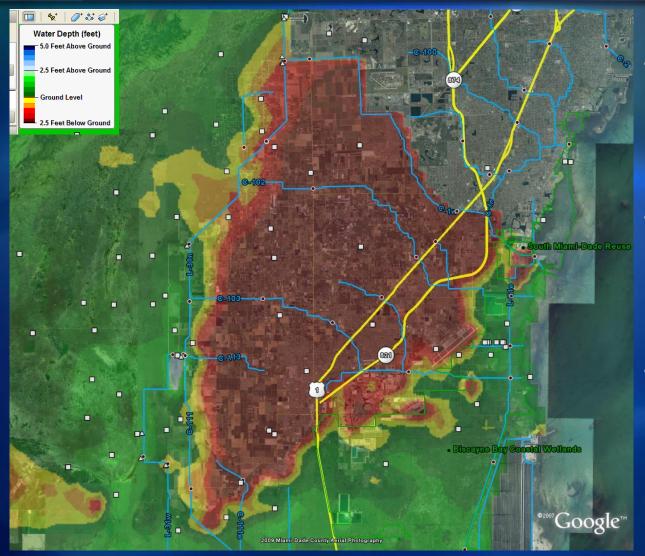






Documenting 2009 Operations





- Install new gauges to track water level changes
- Provide photo documentation of changing conditions
- Implement new technique for mapping water level changes